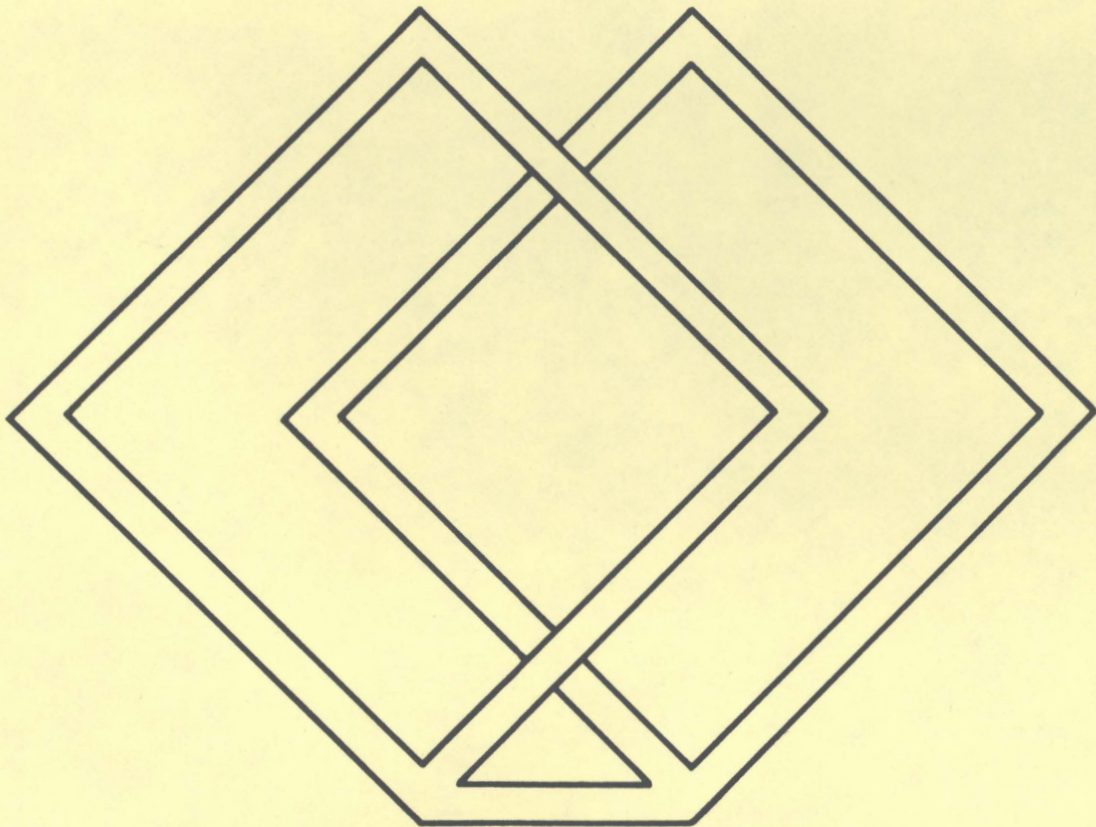


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EDITORIAL

by Frank Gillespie

PUTTING DEBUNKERS IN PERSPECTIVE

A traditional technique of UFO debunkers is an all-out attack on the Extra-Terrestrial Hypothesis, as though the destruction of this theory alone would somehow magically cause the entire UFO phenomenon to evanesce. Another common practice is to use a demonstration of the applicability of a minor UFO theory to a small amount of data, as proof positive that the theory applies to all UFOs.

The latest foray against ETH credibility, is the work of a ufologist rather than a debunker, but John Prytz's rebuttal in this issue would be equally relevant to a debunking approach. Mark Moravec deals equally effectively with recent attempts to establish various 'earth lights' theories as universal solutions to the UFO enigma, without even resorting to condemnation of the invalid extrapolations mentioned above. This is good solid science, employed in the demolition of poor or non-existent science - exactly as it should be.

Ufologists and debunkers, take note! Big names and reputations are no substitute for adherence to the principles of science. Deviate from the true path at your peril!

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I had sincerely hoped after what seemed an endless series of debates against those who, in my opinion, over-reacted against the UFO extraterrestrial hypothesis (ETH) in the early 1980's, that I would be able to quietly promote the UFO ETH without, at the same time, having to single out and debate individuals who, however honestly and scientifically, advocate an anti-ETH point of view. The ETH should be able to stand on its own without my jumping up and down and thumping the table. Besides, I hate to rehash old ground. But...

When a ufologist with the stature of J. A. Hynek, whose point of view carries weight just because of the name behind it, comes out with an anti-ETH point of view that is not scientific, then I feel it a duty to respond. Scientific arguments based on authority are worthless.

Now every person is entitled to a point of view. J. A. Hynek's viewpoints on the ETH are set out in his paper published in the 1983 MUFON UFO Symposium Proceedings titled UFOs: A Scientific Challenge. The name of Hynek's paper itself is "The case against E.T.". In it he gives seven reasons why he feels "in terms of present day science, a formidable case against E.T. as the core and culprit in the UFO phenomenon can be established" (J.A.H. emphasis).

Everybody's point of view is, in science, fair game. To play his game, by his rules, I'll have to stick pretty much to science as we know and understand it today. That's cool! I don't think however that he, or anyone else for that matter, can yet claim to have established a scientifically strong and convincing case against the ETH. That's not to say that other UFO hypotheses have no merit. UFO hypotheses, at least the major ones, are not mutually exclusive. What we (Hynek and I) are on about is whether ETH covers the UFO spectrum - the Big Picture. Hynek says "no" (in terms of present day science); I say "yes". Hynek threw down the challenge - I didn't seek it. You, the reader, can judge the question yourself. Hopefully, you may even wish to join in!

Because you do not have J. A. Hynek's paper in front of you, I shall have to quote parts of it. When I do, unless otherwise noted, any emphasis will be my own. And so down to the nitty-gritty.

1) Failure of Sophisticated Surveillance Systems to Detect Incoming or Outgoing UFOs

If some UFOs are nuts-and-bolts extraterrestrial craft, solid, 3-dimensional, then they should be observed by defence, and other, surveillance equipment entering and leaving the atmosphere. Logical. They, the UFO, have not; therefore...

First off, this equipment, in the main, must be programmed to ignore anything that doesn't "look" like what it was designed to look out for. In the case of defence surveillance equipment (excelling in both quality and quantity), anything which doesn't smack of an actual or potential defence threat would be (deliberately) missed. Otherwise, every meteorite, weather balloon, lightning stroke, pitched baseball, kite, hailstone, and god-damned bird that was detected would put the parent country's armed forces on a Red Alert footing! UFOs do not behave like an ICBM. UFOs do not have the "signature" of a military bomber. UFOs do not mirror the speeds, distances, orbital inclinations, etc. that would be typical of terrestrially launched artificial satellites. Why should they if they were extraterres-

trial? Detection equipment is built with the intent of detecting the known or suspected. It can't be expected to function in the same manner when confronted with the unwanted, the unknown, and the unexpected. Inbuilt parameters limit, of necessity, what a detector can detect. Therefore, since Hynek's "sophisticated surveillance systems" weren't designed and constructed to be on the lookout for extraterrestrial things, it should not be surprising to hear that this has happened - that is, UFOs have not been detected.

Of course it is still possible for UFOs to be spotted, by accident, by equipment designed for other things. In fact, as Hynek well knows, there exists on-the-record the detection of hard-core, bona-fide, unknowns that have been detected by radar. Many such cases would have been, and maybe still are, classified, if military radar was involved. Perhaps there are cases of UFOs having been picked up by other sorts of "sophisticated surveillance systems" and Hynek doesn't know it.

Hynek acknowledges this. He admits that "to the best of my knowledge none of these (sophisticated surveillance systems) have tracked any object on an interplanetary or interstellar trajectory". Now even Hynek would have to admit that he is not going to be number one on the Pentagon's routing slip for that information! In defence matters, and it is basically defence equipment that we are concerned with here, J. A. Hynek has no more "need to know" than does J. Prytz!

He then goes on to give the coup de grace to his own argument when he says...

"It is true that when I was in charge of the Smithsonian satellite tracking program, both our Moonwatch stations and our large Baker-Nunn stations did occasionally pick up 'unidentifieds' and no public mention of these was ever made. Such evidence as I personally examined, however, amounted merely to trails of faint lights that may well have had a mundane explanation. To have devoted many man-hours of investigation to them would not have been justified in a highly mission-oriented project; our job was to track satellites!"

So, J. A. Hynek admits that:

- Sophisticated surveillance systems have detected UFOs
- The information was not made public at the time
- The "discovery" was ignored because it was not relevant to the task on hand.

Why should things be different now?

In conclusion of Hynek's first case against E.T. I suggest that, even apart from the unscientific nature of Hynek's own statements and actions he himself gives in testimony, the role of "sophisticated surveillance systems" is to watch for things by definition exhibiting the sorts of behavioural characteristics you are interested in. You monitor for the expected (even if unlikely) not the unexpected (by definition unknowable and unplannable for in advance).

Further, whole satellites have vanished without trace from their orbits. So much for "sophisticated surveillance systems"!

2) Gravitational and Atmospheric Considerations

According to Hynek, "It appears most unlikely

that all aliens from other solar systems would be at home in our gravity and atmosphere, walking and breathing without difficulty without the aid of space helmets". I agree! But in no way does his statement detract from the UFO ETH one jot.

First off, not all reports of UFO entities or ufonauts suggest that they were totally "at home" in our terrestrial environment. Protective suits have been noted now and again, as have various devices which give the appearance of breathing aids. The gait of some ufonauts would suggest some degree of difficulty with our gravity. But for the sake of argument say that all observed ufonauts appear to be as comfortable in our environment as we normally are. What does that end up proving?

There are several logical scientific answers here. If there is a wide variety of alien life forms that originate from all manner of diverse habitats, and thus exhibit a wide range of exotic biochemistries, then only that sub-set from terrestrial or quasi-terrestrial abodes will be able to visit Earth with little or no protection. A being from Saturn would not drop in and take a stroll on Mother Earth. However, that same entity would have little trouble with an in-person expedition to Jupiter, Uranus or Neptune. Something (someone) from Mercury would be at home on our moon, Luna.

Of course not "all" aliens will be at home on Earth. Who says that all aliens have visited Earth? Does J. A. Hynek know something Carl Sagan doesn't?

Then there are exobiologists (scientists concerned with the questions central to the origin and nature of alien life) who seriously suggest that only terrestrial life forms from Earthlike habitats and carbon-based/liquid water biochemistries can originate and evolve. If so, that explains that! All aliens would be at home on Earth, because only extraterrestrial abodes that are Earthlike can produce life. We in turn would be at home on their parent planet. Just because our solar system has only one Earthlike planet, doesn't of necessity mean that only one Earthlike planet exists in the entire cosmos.

Finally, and to my mind most likely, given our own advances in microtechnologies, in computers, in artificial intelligence, in cybernetics, in biotechnologies, in genetic engineering, etc., we have the possibility that the ufonauts are, in part or in whole, constructed or engineered. Perhaps Doctor Who's Cybermen and Daleks have non-fictional equivalents - though not we hope in terms of their behaviour toward other life forms!

This possibility would assist in explaining lots of the UFO ETH stumbling blocks, such as the one of traversing interstellar distances and times, or the non-spaceworthiness of your basic typical flying saucer, both issues that J. A. Hynek will be coming to. One other stumbling block is ufonaut diversity. Such diversity is explained by adopting a point of view that many, if not all, ufonauts are actually UFOBOTS - UFO roBOTS - made to order, maybe bioengineered to order. There is many a witnessed report to hand describing the UFO entity(ies) in mechanical terms.

We could consider the Viking Mars landers to be crude prototype UFOBOTS! Clearly they exist in an environment unprotected, when we humans couldn't, yet they function without difficulty. Or did. Both landers are now dead - but not killed by the alien habitat. They were designed and constructed to be "at home in that extraterrestrial environment.

If there were to be a future Mars Sample Return Mission, you could have a Viking-like ship land, disgorge an "entity" which would crawl out and over

the Martian surface (showing no signs of discomfort), select and acquire soil samples from several diverse spots, return to the "parent/mother" ship, which then blasts off for Earth! What would the Martians - if there were to be Martians - think? Does the scenario sound familiar? Can you relate UFO-wise to it?!

3) Statistical Considerations

According to J. A. Hynek, "The sheer numbers of UFO sightings reported around the world make it most improbable that their origin lies in astronomically distant worlds. One might expect such a visit perhaps once in a millenium, if that, not hundreds of times per year".

The immediate rebuttal here is that Hynek is adopting an either/or point of view, which does not, of necessity, have to be. Hynek says in a manner of speaking that either all UFOs are extraterrestrial visitors, or none are. He avoids the middle ground. The sheer numbers of UFO sightings are just that - of UFO sightings. It only provides an upper limit on the number of alien visitations - not a lower one. It says nothing about the number of sightings of alien spaceships, because we do not have an equation that relates UFOs and alien spaceships. Perhaps we have had only one alien visit over the past 1000 years - and Socorro, N.M. was it!

This issue needs exploring in depth. Is there an embarrassment of riches from the ETH point of view?

The fact that the numbers of "identifieds" or IFOs mirror the number of "unidentifieds" or UFOs (i.e. when one goes up, the other goes up, resulting in a quasi-fixed percentage of unknowns over time) suggests that either most "identifieds" aren't, or else most "unidentifieds" shouldn't be. Given problems with witness perception, time lags between sightings and reportings and investigations, pollution caused by UFO publicity over time, I'd adopt the point of view that most unknowns shouldn't be. A hefty percentage of UFOs should really be IFOs, but because of factors beyond the control of the ufologist, will never be. If that is so, then the real unknown percentage is probably, when all is said and done, closer to 1%, perhaps even .1%, certainly not 10% (or in that ballpark).

Further, as hinted at above, not all of that residue of bona-fide unknowns will of necessity be extraterrestrial vehicles. Perhaps only 1% are. The other 99% could be your basic ultra-rare, unknown, uncatalogued natural phenomena; terrestrial secret weapons; hoaxes; and psychic phenomena. In fact any one of a dozen other UFO theories could be contributing to the total. Maybe there really are weird atmospheric creatures which are sighted 999 times for every time an extraterrestrial flying saucer is witnessed! But that fact would not make the ETH wrong!

Another common mistake that J. A. Hynek makes is to assume that there is a one-to-one correlation between an E.T. UFO and an interplanetary, interstellar, or intergalactic round trip. It is not necessarily so. An automobile with a licence plate number of 123ABC could make the lengthy journey from Canberra to Sydney, cruise around Sydney sight-seeing for a week, then return to home (Canberra) base. If 123ABC had been reported by each witness who had sighted it, say a total of 10,000 times, would that mean that there were in actual fact 10,000 different automobiles with a licence number of 123ABC? Of course not. Would each of the 10,000 unique sightings mean, of necessity, that there must have been a Sydney-Canberra-Sydney round trip between each of the 10,000 sightings? Of course not. There is only one 123ABC - hardly an

embarrassment of riches to those trying to explain away the 10,000 sightings.

What's the maximum number of (E.T.) UFOs sighted at one unique point in time? That figure could be the maximum number of extraterrestrial vehicles that are now, or ever have been, in our neighbourhood - it must be the minimum. One "mother ship", with a cargo of 100 discs, having made but one trip from home base (wherever that is), could account for the entire UFO enigma! Yet such numbers do not suggest that an astronomically distant origin is "improbable". Therefore, is Hynek's point valid? Clearly not!

Finally, who's to say how many are too many to make an ETH unviable? Terrestrial chauvinism rears its ugly head yet again! It's so hard, I admit, yet so necessary, to get away from this pitfall. If the E.T.'s GNP is immense by our standards; if faster-than-light travel is possible; if they have a local solar system, even terrestrial or orbiting base of operations, then perhaps we should be insulted to know that we only rate the miserable few visits we do get!!!

4) Elusive, Evasive and Absurd Behaviour of UFOs and Their Occupants

J. A. Hynek believes that "UFOs and their occupants, having presumably travelled for long periods and over long distances, simply do not behave as we would had we made such a journey!" Yet, later on, he admits that "the advocate might say we take a much too anthropomorphic view of things. Why should we expect "them" to do things as we would? "They" obviously have a totally different frame of reference!"

To which I say "damn straight" and "right on"! Which is the more scientific view - to expect aliens to act like terrestrials, or to expect aliens to act like aliens?

To my way of thinking, Hynek has answered his own question! He hit the nail on the noggin! Again and again Hynek uses phrases like "very much unlike us", or "how unlike us", or "we would" in comparing our (hypothetical) behaviour with their behaviour.

Yet much of his speculations or beliefs on what our behaviour would be in a reversed situation amounts to a pure "thought experiment" as we have yet to turn the tables. We have not journeyed over long times and interstellar distances to seek out new worlds and new civilizations. We don't yet have a foreign policy, a behaviour pattern, even a philosophy set out for first contact with extraterrestrials - with us the discoverer, not the discovered. How does J. A. Hynek therefore know what we will do? How is it he gets to speak for us in such matters? Maybe he's right. Maybe. But it's not a scientific fact. But for arguments sake say he does know, absolutely, what we would do. That does not alter the fact that he is using a totally anthropomorphic argument to dismiss an extraterrestrial hypothesis. And that's not scientific either.

Extraterrestrials by definition will be alien to us. "They" will not be human, either physiologically, socially, psychologically, or in any other way. And that's about all one can say. We cannot state in advance the degree of strangeness. To argue that typical UFO and ufonaut behaviour is not typical human behaviour (as Hynek does), when it is obvious that we cannot and should not equate human behaviour with alien behaviour, to then conclude (as Hynek does) that typical UFO and ufonaut behaviour is not typical alien behaviour is not on. It doesn't of necessity follow. It is a ridiculous and unscientific point of view.

If J. A. Hynek could claim some professional expertise in ethology (with animals the analogues of aliens) it would increase his credibility in this area. Actually, the bottom line is such that nobody can state with any degree of certainty what alien behaviour must be like. Except, it appears, J. A. Hynek. I in turn conclude that his behaviour suggests an above average fondness for watching the anthropomorphic movie offerings that Hollywood dishes out and labels "science fiction". There, the aliens are predictable!

But back to reality. One characteristic of human intelligence is that it is unpredictable. If one goes up the terrestrial evolutionary ladder from plant through invertebrates hence vertebrate forms, hence amphibians, reptiles, birds, and mammals, then primates hence modern man, one notices an evolutionary trend not only of increasing intelligence, but increasing behavioural unpredictability as instinctive gene behaviour slowly yields to "intelligent" brain behaviour. How much more so then would the next rungs be in terms of relative degrees of intelligence and behavioural unpredictability? Those rungs would be occupied by intelligent life forms far senior to ourselves. Perhaps extraterrestrially intelligent life forms.

Hynek's (quoting A. Michel's) "festival of absurdity" as a descriptive phrase of E.T. UFO behaviour should be a label of our anthropomorphic point of view and not a tag pinned on (unknowable before-the-fact) extraterrestrial (UFO) behaviour! My premise is that if it happens as we expect it to, then we should be looking for human intelligence behind the phenomena, not alien intelligence. In other words, and my advice to J. A. Hynek is, expect the unexpected!

5) Isolation of the UFO Phenomenon in Space and Time: The Cheshire Cat Effect

According to Dr. Hynek, "The UFO can be characterized as isolated in both space and time. It is somewhat like the famous Cheshire Cat in Alice in Wonderland." He considers it strange that UFOs, if extraterrestrial, would undertake "A long interstellar journey for such a short stay".

But there is a terrestrial precedent. Hynek should recall the Apollo legacy. It took nearly a decade and hundreds of thousands of manhours to prepare for the journeys to the Moon - journeys which each lasted but from 6 to 7 days (roundtrip). The Apollo astronauts travelled several hundreds of thousands of (roundtrip) miles - yet on the Lunar surface travelled a few miles at best. All the time, effort and cost of the Apollo Program resulted in a relatively few sites being explored; relatively few manhours spent at the objective - the Moon.

The Apollo Moonmen came out of the blackness of space, stayed but a moment, and were gone... "but where to?" I hear a hypothetical Lunar critter ask! Just like that terrestrial Cheshire Cat! To any Lunar beings, Apollo was very isolated in space and time.

If UFOs are extraterrestrial vehicles, it should not be surprising to learn of their isolation in space, as they would be coming and going in a vertical direction. Hynek makes an analogy with our terrestrial aircraft, but these vehicles, for all practical purposes, travel in a horizontal direction. Thus, an aircraft on a flight path from Sydney to Melbourne should be located overflying the Canberra region. A UFO flight path from home base (say a "mother ship") to Canberra and return could map out an equal distance, but to earthlings, that vehicle - the extraterrestrial one - is going to appear to be isolated in space. It comes, it goes, and it

is seen by only a very few. There is no way to predict where it will be seen next; if it will be seen again at all.

As long as UFOs can travel extensively in that 3rd dimension (up), then they can easily appear to be isolated in space, to us, confined as we are (for the most part) to the 2-dimensional surface of the planet and the very bottom fraction of its atmosphere. Perhaps Dr. Hynek should read in addition to Alice in Wonderland, E. A. Abbott's classic novel Flatland: A Romance of Many Dimensions. Then he might not be quite as perplexed by the "Cheshire Cat" effect.

If explaining the isolation of UFOs in space as being a physical problem with a physical (or mathematical) solution, then explaining the problem of UFO's isolation in time can be adequately addressed if one looks for a behavioural solution. In the above example, there is no apparent physical reason why the UFO over Canberra need not stick around for an hour, day, week or even longer. But if that ball-of-wax is behavioural, given that we have enough trouble figuring out human behaviour, then it again need not necessarily be surprising that we should be confronted by the unexpected. We don't know why the duration of UFO visitations are measured normally in seconds or minutes, rarely hours, and even more rarely more than a few hours, and hardly ever/never for days, weeks, months or years on end, uninterrupted. But one can do a bit of speculation.

One can make the observation that as technological ability increases, the time needed to "do things" decreases. A computer can calculate in seconds what the human mind using pen and paper would take days to figure out. You can walk from Sydney to Melbourne, but it reduces the time by orders of magnitude if you use some form of technology. Remote satellite sensing can map areas better than it could have been done by a ground team, at less expense, and in a fraction of the time.

I would gather that a super-technological civilization could therefore accomplish most of whatever immediate goal it wanted to accomplish in quick-smart fashion, and do it faster, cheaper and better than we could do it at our not-quite-as-super state-of-the-art development.

If the UFO's "mission" is scientific intent (it doesn't appear to be either hostile or diplomatic in purpose, but such judgments could still be premature ones as we have no extraterrestrial standard with which to compare them), then much of the data gathering would be accomplished in timeframes that would be very quick indeed. What would take longer would not be investigated on-site but brought on board for in-depth analysis (i.e: soil sampling, abductions, etc.). In either case, the UFO hangs around for the minimum time possible consistent with its mission objective. Surely we terrestrials do no less. It would not be cost-effective to take a man-day to do what could be done in a man-hour!

But whatever the reason, it's not logical, nor scientific, to decide the issue based on our way of thinking and doing things. We are frequently warned by ethologists not to interpret animal behaviour in human behavioural terms. That goes triple when entertaining speculation on aliens who have no evolutionary kinship (to the best of our knowledge) with us at all! Behavioural evidence can be suggestive, but it is not conclusive. In this case, the question of the UFO ETH, the isolation-in-time factor is not even suggestive that UFOs have no extraterrestrial connection.

Hynek also hints that his "Cheshire Cat" effect violates physical law. "The UFO seems to have a dual existence: physical at one moment, non-physical

the next" he says, hence "becoming invisible at will". But the can't a bullet go from being visible (stationary) to being "invisible" (in motion) in less time than it takes to blink? Doesn't a TV picture become "invisible" when you turn off the set? And what of the light from a red-hot stove or an incandescent globe when you flick the switch to the "off" position? How long does the image of the impact crater last when a drop of water hits the surface of a pond? The friend who closes the door behind him has, as far as your senses are concerned, achieved a state of non-existence (I assume an opaque door of course).

The message is that there are lots of examples and lots of reasons why things turn "invisible". Sheer speed, or the shift in the radiation frequency/wavelength within the electromagnetic spectrum from/to the "visible", emitted/reflected by an object, can render what was visible/invisible to what is now invisible/visible, in time frames or intervals beyond our sensory ability to come to grips with - hence the expression alluded to above "in the blinking of an eye". And such examples are not Hynek's "magician's art" but science! Thus, I fail to see the real relevance to the entire "Cheshire Cat" effect because it sure as hell doesn't argue for "the case against E.T.".

As an aside, lest you think this is an official "Pick On Hynek" article, I must also give credit to him for going after and analysing UFO patterns, not just individual UFO cases. UFO debunkers go after individual cases because it is always easy to invent a prosaic explanatory scenario for them - even if outrageously so - but they never (or so it seems) tackle the hard-core patterns which are always a lot harder to explain away in prosaic terms!

Further, I agree with Dr. Hynek's overall conclusions that "all these arguments do not in one whit negate the reality of the UFO Phenomenon" (J.A.H. emphasis).

6) The Space "Unworthiness" of the UFO

Hynek suggests that "By our standards, the typically reported UFO appears as a most unworthy craft for traversing interstellar space". Note the "By our standards". Here we anthropomorphically go again! Actually, this argument is a non-event; a damp squib. I'm surprised that it has been seriously advocated.

If a Tasmanian sees a car in Tasmania with an A.C.T. licence plate, the Tasmanian knows the car couldn't have driven by itself from the A.C.T. to the Tasmanian island state. Cars are not seaworthy! And there are no bridges or tunnels linking Tasmania with the North Island (the continent of Australia itself)! Of course our Tasmanian, being an intelligent sort of bloke, realises that the A.C.T. automobile was transported over Bass Strait by (mother) aircraft, or, more likely, (mother) ship.

Dr. Hynek acknowledges the analogy. "The (pro-UFO ETH) advocate must hold that the craft we see has come from a nearby undetectable base, perhaps from a 'mother ship'."

So what's wrong with that? Spot on! Ten out of ten! Yet another case of answering your own question with a rational answer, and in this case one supported by observational data. What's the point in posing a problem, if you could dignify it by calling it that, when you yourself have a plausible answer(s) at the ready to counter or explain it? If you can see the pitfalls and fallacies so much so that you feel you'd better mention it (lest you alert your readers that you seem a real dill for not seeing the obvious), you've not only weakened your own case, but in so doing reduced the degree of confidence you instil in your readers

toward your point of view. The message is that the amount of self-confidence you must really feel leaves a lot to be desired. But I digress.

Since Dr. Hynek feels this is a problem, then I am obliged to respond in a scientifically acceptable and serious manner. Right.

Apart from the "mother ship" answer which is supported by various actual UFO sightings and has many terrestrial parallels (one often mentioned is the aircraft carrier), another possibility is, as Hynek suggested, that there is a nearby UFO base which is located in regions that make detection difficult if not impossible. A nearby base would require that UFOs need not have the same degree of spaceworthiness as if the home base were located lightyears away. This nearby base would house the UFOs after they, and supporting facilities, were transported once upon a time from a stellar system far far away. (An excellent terrestrial analogy is the Antarctic expeditions which transport men and supplies to the "White Continent", establish bases there, which support the remote excursions.) This strikes me as being an admirable way of conducting interstellar exploration!

There is plenty of real estate within the solar system to make such a speculation scientifically viable or plausible. As no doubt Dr. Hynek, an astronomer, would be aware, I could give many an academic citation to articles which seriously suggest "they" (in the exobiological sense, not the ufological sense) could be located in space arks/bases within the asteroid belt or perhaps at the Earth-Moon Lagrangian points. If that is the case, the exobiological and the ufological "they" could prove to be one and the same. As I have already hinted, the base need not be on the surface of a natural body. The "base" could be the very "interstellar ark ship" that transported the UFOs in the first place, in which case it is back to the aircraft carrier analogy.

Then, but less likely, aliens could establish a base on a (high gravity, hostile environment) natural surface. Given the history of TLP (transient lunar phenomena), something astronomer Hynek cannot dismiss, a lunar base, especially one on the far side of the Moon, cannot be ruled out as impossible - even if TLP is unrelated. An orbiting spacebase, circling around the Earth, need not be detected if it adopted an atypical orbit, far removed from terrestrial traffic being scanned by the terrestrial powers-that-be.

Finally, what if the pilots are robots. The Voyager space probes are most space unworthy - if considered from the point of view of being able to carry and support human passengers! But Voyager does carry a form of intelligence - it has to be able to function in time intervals less than that allowed by the distance between it and Earth given the finite velocity of electromagnetic signals.

To an artificial intelligence orders of magnitude better than on the two Voyagers, long distances, long time frames, cramped quarters, etc. would mean bugger-all! You don't have to transport an atmosphere, tons and tons of fuel, massive quantities of food, provide sleeping quarters, toilets, etc. Use of AI (artificial intelligence) would cut down on the volume and mass you've got to shoot across the stars.

Any one, perhaps two, or even all three would answer Hynek's puzzlement - not that he really was puzzled as evident from his own writings!

7) The Problem of Astronomical Distances

Sooner or later the time and distance arguments

just had to crop up. They should be allowed to finally rest in peace. They are old hat. They are out-of-date. They are the weakest in Hynek's whole series of what I consider are weak arguments. Yet, he has saved what he considers the best - "the outstanding reason for the rejection of the (E.T.) UFO" - for last.

As I mentioned above, the time and distance arguments are the most unconvincing of the anti-ETH arguments. They haven't been in serious vogue for the better part of a decade now, as interstellar exploration and colonization has since been rendered plausible. All one has to do is abandon anthropomorphic chauvinism. In fact, science fiction authors had done this; had the solution, back in the 1920s and '30s. But then they were only science fiction authors. But...

In keeping with my promise not to extrapolate too widely and wildly beyond our science and science as we know it, let me state from the beginning that, first off, I'm not into gee-whiz Star Trek technology - worm holes, black holes, hyperspace, warp-drives, and faster-than-light travel. Secondly, I, like Hynek, acknowledge the immense distances between stellar systems, and the limiting velocities one can not only absolutely, but reasonably go, in terms of getting from Star A to Star B (given our known state-of-the-theoretical-art) which of necessity means that it will take long periods of time to traverse the vast distances involved. But, time is relative, and not only in the sense dictated by Einstein's relativistic equations. The fact that Hynek forgets, or ignores, is that the galaxy is as old as it is big! What do I mean by that?

You can accomplish the exact same degree of interstellar voyaging at 1/100th c ("c" is the symbol for the limiting velocity, the speed of light) as you can (hypothetically) at 100 c - only it is going to take longer. But, not longer than the absolute time available - the age of the galaxy itself. The age of the Milky Way Galaxy is orders of magnitude more accommodating in time available than even very conservative scenarios central to interstellar exploration and colonization - such as travel at 1/100th c - require. And that's for 100% saturation exploration, even colonization of the galaxy. The Milky Way Galaxy could be had for the taking in a blinking of cosmic time to the first spacefaring race. How?

There are many plausible ways of exploring the galaxy in total at 1/100th c. Artificial intelligence is one - a self-replicating robot probe spreading throughout the cosmos like the ripples on a pond. Having a very long lifespan is another, extended by bioengineering if need be. A third is the old science fiction ploy, the multi-generation starship/space ark scenario. Variations on the theme of suspended animation is another, again often used in science fiction.

If extraterrestrials, millions of years our senior (and millions of years is but a cosmic yawn in a cosmic lifetime) set out on a path to explore the galaxy, then we, Planet Earth, are in their data bank! Further, out of a galaxy filled with billions of stars, planets, and probable life forms, intelligences, civilizations, and technologies, it (the discovery of Earth) would still be 99.99% inevitable should only one such star, planet, life form, intelligence, civilization, and technology become spacefaring and set out to explore strange new worlds and seek out new civilizations. No doubt once Earth was stumbled across, it, being inhabited by life forms (if not yet intelligent life forms) would be among those tagged for follow-up attention.

To seriously argue that we have not been

visited by an extraterrestrial intelligence(s), you'd have to argue that:

- a) Extraterrestrial intelligence does not exist; we are alone in the Milky Way Galaxy, or
- b) That extraterrestrial intelligences exist, but that we happen to be the very first such intelligence to develop a suitable civilization and degree of technological sophistication, or
- c) That every other suitable technological civilization - those in advance of us - chose not to venture into space, or
- d) That interstellar travel, even the most conservative scenarios involving "how to", are orders of magnitude more difficult than we think, or undesirable, or
- e) That every spacefaring technological civilization just happened by accident to miss Planet Earth, or
- f) If discovered/visited in the remote past we (or rather our ancestors) were considered so uninteresting that we haven't rated, in their eyes, the worth of an on-going surveillance and investigative program.

Such points of view are very very hard to justify and support. This has been so much the case that exobiologists are faced with what is termed the "Fermi Paradox" - where is everybody? Scientists have concluded (well, some of them at least) that you cannot have extraterrestrials exist without having evidence for that existence obvious to us Earthlings. Those to whom the UFO represents the absolute

pit of scientific E.T. nonsense, can only resolve the paradox by adopting one of the weak arguments outlined above. To those who don't adopt those blinkers as wearing apparel, the UFOs are there for all to consider as evidence that E.T. does exist. The bone I pick is that there is a world of difference between evidence, and obvious evidence, where the latter would be unambiguous to all the Sagans, Menzels, Condons, Klases, Obergs, and even Hyneks of this world. From my philosophical point of view, the UFO is evidence, but is not obvious evidence for the existence of extraterrestrial life.

But, as I've argued many times in many places, you can nearly deduce the existence of the UFO from the first principle that extraterrestrial intelligence exists. This is an ideal complement to those who argue UFOs, therefore extraterrestrial intelligence. Taken together, Hynek has much of his "case against (UFO) E.T." cut out from under him.

And so that's Hynek's "formidable case against E.T. as the core and culprit in the UFO phenomenon". It is, to my way of looking at the issues, a pitiful effort. If these are the best anti-ETH arguments and thoughts, advanced by one of, if not the foremost of experienced ufologists and UFO thinkers in the world today, then the ETH has little, if anything to fear. The ETH is as viable a hypothesis (not fact - nobody can yet prove the ETH) today as it was when first proposed in the early 1950s; in fact, even more so, having stood the test of time against all comers, including the scientific ones, such as Dr. Hynek has claimed some spokespersonship for in his anti-ETH paper.

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BRIGHT NIGHTS

by Paul Sowiak-Rudej

We are now living in the technological revolution, which enables us to understand more and more aspects of our environment. In ufology, too, our understanding is growing, and the residue of UFO sightings shrinks as our knowledge increases.

Dr Brian Armstrong of the CSIRO Solar Observatory at Culgoora, NSW, has on two occasions observed 'bright nights' which may have some bearing on the UFO phenomenon. He described them as "broad, faint greenish bands low in the sky and parallel to the horizon, and as he watched they slowly moved upwards and vanished. Throughout the night, a progression of bands appeared and disappeared". (1)

He has recorded thousands of airglows (light emitting energy given off by gases in the atmosphere between 80 - 110 km), a sizeable number of auroras, but only a handful of 'bright nights'. Dr Armstrong considers that they are related to airglows and not auroras, and from infra-red photography measures their wavelength at 244 nm, with a speed of 72 m/s. They have on occasion been recorded on film even when not physically visible.

The conditions necessary for their observation are outlying country areas, where no light pollution contaminates the sky, and dark adapted vision.

Dr Armstrong has also observed waves moving across the glowing bands, and speculates that these could be gravity waves travelling through the region of the air, causing it to appear to wrinkle. It is suggested that such waves are the result of air perturbed by the convection current motion of fronts, cyclones etc. in the atmosphere.

These airglows/bright nights may have an effect on UFO reports. They are unlikely to be primarily mistaken for nocturnal light UFOs due to their lack of a point source, and more apparent banded sky effect. However, they do explain the occasional report of greenish glows on the horizon unrelated to a UFO sighting. Secondly, in some cases it may explain a coincidence of an aircraft flying across the horizon together with an airglow. There have been reports recorded in the literature of UFOs that lit up the sky with a faint green glow, and the strangeness of the report leads to a UFO classification, whereas it may in fact be a case of two separate, unrelated incidents.

(1) Bell, A., "On the Lookout for Bright Nights" ECOS Number 34, Summer 1982-1983.

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THE EARTH PHENOMENA HYPOTHESES

by Mark Moravec

One of the earliest speculations about the nature of UFOs was that they were some kind of natural, earthly phenomena. That there are unusual natural earth phenomena of which we know little is evidenced by the data collections of William Corliss (1977). Over recent years, the earth phenomena hypotheses have again taken a higher profile with the idea that stresses in the earth's crust might produce luminous phenomena responsible for many UFO sightings.

The major earth phenomena hypotheses suggested from the early years of the UFO controversy to the present include:

- * Ball lightning
- * Plasmas (Klass, 1968)
- * Atmospheric animals (Constable, 1958)
- * Earthquake lights (Persinger, 1976)
- * Earth-stress lights (Wagner, Hulse and McGrath, 1978)
- * Earth lights and proto-entities (Devereux, 1982)

It is the hypotheses of Persinger and Devereux that have gained the most recent publicity. Persinger (1976) suggested that in areas prone to tectonic stress and strain release, highly localised and transient "electric field columns" could be formed. At critical sub-surface pressures, intense electric fields could be generated and ionise the air to produce temporary luminosities whose motion and appearance would be determined by local geophysical forces. The electrical forces involved could produce electromagnetic disturbances to electrical systems and might even affect the human brain to produce hallucinations.

The main advantages of both the Persinger and Devereux hypotheses are that they focus attention on new and potentially plausible possibilities to explain UFO phenomena. There is also the chance to conduct repeatable experiments and observations which may support or falsify the hypotheses.

But there are also criticisms which can be made. In relation to the Persinger hypothesis:

- In an attempt to verify the hypothesis, Persinger and Lafreniere (1977) attempted to correlate UFO reports (and other fortean phenomena) with "gross earth phenomena" (volcanism, earthquakes, meteors and weather changes). Although they obtained marginal correlations between some "earth phenomena" and "total fortean events", UFO reports were not significantly correlated with any "earth phenomena".
- The reliability of individual UFO reports was ignored and the sampling of reports was arbitrary rather than random. The 6060 UFO and fortean cases used in the statistical study were assumed to be valid despite their derivation from doubtful media sources. Also, any map detailing the geographical distribution of reports changes according to the sample collected. With only 1018 UFO cases chosen to represent the entire period from 1800 to 1977, we can have no confidence that this is a true random sample of UFO reports. Since there was no quality control of the data used, any resultant correlation could merely be a statistical artifact.
- The hypothesis depends on the unproven assumption that such things as "localised electric field columns" exist. The research of Dr Brian Brady has been cited in support of the Persinger hypothesis. When Brady crushed cylinders of quartz-bearing granite, glowing sparks were generated which lasted one-tenth of a second. However, it is a long way between a simple small-scale laboratory experiment which produces very

brief luminosities and large scale natural processes which may or may not produce luminous phenomena of extended duration. Such an extrapolation has yet to be justified.

- Why have UFOs been seen in large numbers only since 1947? We would expect the hypothetical piezoelectric forms to have been reported consistently throughout human history - not just predominantly in the last 30 years.

- UFO reports are present practically everywhere across the globe. They are not restricted to regions of geological faulting. And in cases where the hypothesis has been applied (e.g. Kaikoura, New Zealand in 1978, and the Travis Walton case in Snowflake, Arizona in 1975) there has been no history of repeated UFO sightings over time which we would expect if UFOs are geophysically generated.

- What of reports of metallic, craft-like UFOs? If they are hallucinations produced by the electric field stimulating the human brain, where were these hallucinations before 1947? And what of multiple-witness cases? And what of those objects photographed? Even granting that the number of possibly authentic photographs is small, they exist nevertheless. (Moravec, 1981; Hendry, 1978; and Hendry, 1981.)

Devereux (1982) attempts to extend the Persinger hypothesis by trying to relate together UFOs, faultlines, megaliths and other earth mysteries. Like Persinger, he sees UFO phenomena as being the product of geophysical forces associated with seismic activity. But he extends this notion to the concept of "proto-entities" which are basically UFOs or UFO entities which have the capacity to change their form in response

to the mental cues of the observer. In other words, Devereux suggests the UFO observer himself can influence the final form of a seismically-initiated UFO by the power of his mind - a form of unconscious psychokinesis. He also suggests that the megalith builders had some knowledge of earth energies which could be utilised, and brings in data from preliminary instrumented measurements of ancient sites suggestive of some form of energy being generated by the stones, perhaps stimulated by the sun's rays.

To support these notions, Devereux and geologist Paul McCartney tried to show that areas of high UFO incidence in Britain are closely related to fault lines and hence seismic activity. Looking at the author's maps, it is sometimes possible to see correlations and sometimes not - it is difficult to say without a proper statistical comparison.

To some British UFO researchers who are familiar with the local UFO data, there are shortcomings in the data used in the book.

McClure (1983) points out that the four areas of the British Isles singled out for attention are either based on false data or data which has been selected in a biased manner by the author:

- Warminster: According to British researcher, Ian Mrzyglod, the Warminster sightings are largely identifiable, being merely promoted as something extraordinary by the sincere but uncritical works of Arthur Shuttlewood, author of The Warminster Mystery.

- Dyfed, South Wales: Researcher Hilary Evans has shown the Dyfed sightings of 1977 to be mainly the product of popular fantasy and poor investigation. Also, Devereux has chosen only the Dyfed sightings of the one year (1977) since the beginning of recorded history that would support his hypothesis. What of all the other years?

- Barmouth, North Wales: Devereux only selects UFO examples from the years 1904-05. Why would the alleged faults only be active during these years to produce UFOs? Also, what of the many reports of 1904-05 which relate to lights appearing indoors, a luminous arch over a mile long, etc., which don't appear to be anything like earth lights?

- Leicester: The reports used are, with one exception, taken from a

local newspaper, the Leicester Mercury. Devereux selects 130 cases covering 1953-1974, but this works out to less than six cases per year. And perhaps only 10% could be considered genuinely unexplained. Thus a statement referring to nearly 25% of reports falling within a five mile radius of Croft Hill only amounts to less than 1½ reports a year. Devereux claims that there is one minor, local fault at the base of Croft Hill, but a follow-up by Dr Peter Crowther of the Geological Department of Leicester Natural History Museum disputes this. The latest geological survey maps and site reports completed since show no fault, major or minor, in or near Croft Hill. It appears the visible rock formations had been misinterpreted as indicating the presence of a fault.

So what do we make of the earth phenomena hypotheses? I think that these ideas are very useful in that they provide a new and plausible direction for research into the origin of UFO phenomena. There are luminescent phenomena associated with earthquakes, lightning, tornadoes, etc., which we do not yet fully understand. And maybe there are other natural earth processes of which we are barely aware. The earth phenomena hypotheses also contain elements which could be tested by repeatable experiments in the laboratory or repeated observations at certain geological sites.

But it is also clear that the evidence which has thus far been presented to support the hypotheses has been grossly inadequate.

I would advocate the continued investigation of possibly relevant earth phenomena, but it must be in a scientific manner with only critically tested evidence being accepted. Otherwise houses built on sand don't take long to sink!

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ACUFOS BIBLIOGRAPHY SERVICE: GENERAL & TRADITIONAL SETI (by) John Prytz

Compiler's Note: Readers who know me won't believe this, but I've never yet featured traditional, routine, radio SETI (Search for Extra-Terrestrial Intelligence) in this column - alternative, non-radio SETI, yes, but not the ordinary garden variety. So, to coin a well-worn Australian political phrase, "It's Time". I did feature radio SETI in my master ACUFOS bibliography document (D-16) to the tune of over 350 references. I do not intend to repeat those again. Interested parties are urged to consult that document (pages 47-56). This bibliography therefore will serve for all practical purposes as an update to that document's citations, while, for the purposes of this column, be a data base in its own right. No bibliographer can ever cover 100% of the references available, hence relies on others to supplement that which he can do for himself. It is therefore fitting to acknowledge in general, but with respect to SETI especially, the assistance I've received from the internationally known exobiologist, SETI enthusiast, and bibliographer, Zbigniew Paprotny of Rybnik, Poland. It bodes well for the future that there can be and is mutual co-operation and assistance between the citizens of two nations, 180° apart globally and politically, on topics of such cosmic importance that they cut across these divisions. Thanks Zbigniew!

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